Adfotain Foundations

User's Guide

Version 1.1
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Introduction

The Adfotain Foundations allows configuration for WAN (wide-area networking) mode and LAN (local area networking) mode operations. This document introduces the functionality of Adfotain Foundations to provide basic understanding of the system.

Choosing A Mode

Adfotain Foundations offers a selection of two modes: WAN (wide-area networking) mode and LAN (local area networking) mode. Each one is suitable for a different application:

- **WAN mode**: if you would like to use centralized management across the globe, choose this mode. The WAN mode works with the Adfotain Central Management Server that allows you to manage your media processor from anywhere TCP/IP is available.
- **LAN mode**: if you are using your media processor within a local network where direct TCP/IP connection is possible (no firewalls blocking access), use this mode to control the device via web pages to upload media files and playlists.

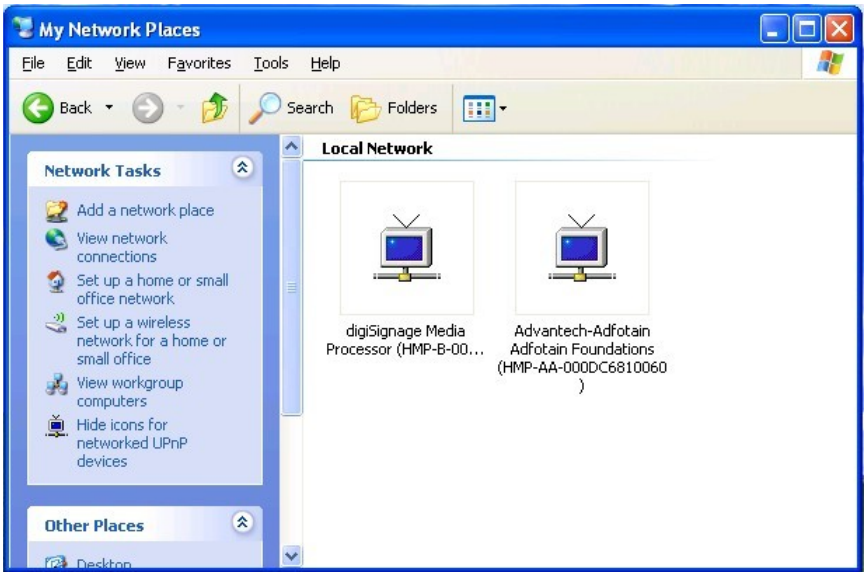
System Requirements

1. An Adfotain Foundations powered media processor;
2. Microsoft Internet Explorer or Mozilla Firefox web browser running on a desktop or laptop computer;
3. *Optional:* Microsoft Windows XP System with UPnP browsing enabled. See Appendix A on how to enable UPnP browsing.

Operating the Two Modes

To access the Adfotain Foundations, follow these steps:

1. Connect your device to a PC via a cross-over Ethernet cable;
2. Connect the device to a VGA monitor;
3. Power up the device;
4. If you have the optional Windows XP with UPnP browsing enabled, then
    a. Open your Windows Explorer, look for a device named "Adfotain Foundations" under "My Network Places";

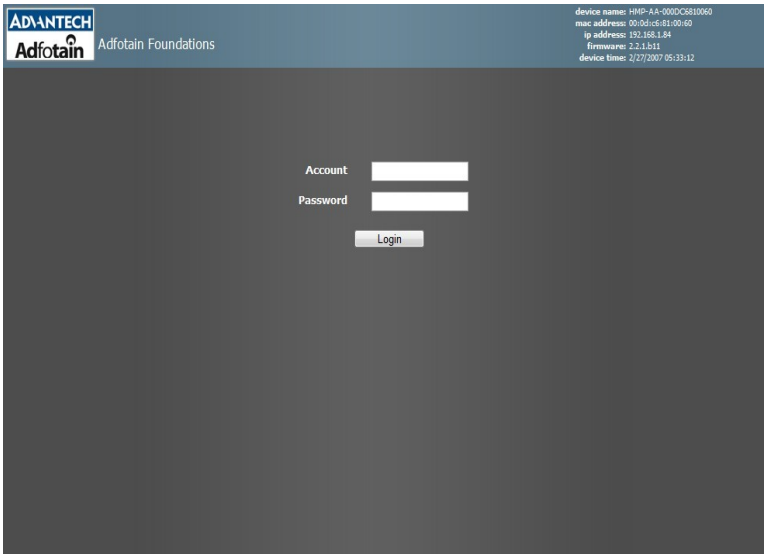

My Network Places
File Edit View Favorites Tools Help
Back Search Folders
Network Tasks
Add a network place
View network connections
Set up a home or small office network
Set up a wireless network for a home or small office
View workgroup computers
Hide icons for networked UPnP devices
Other Places
Desktop
Local Network
digiSignage Media Processor (HMP-B-00...
Advantech-Adfotain Adfotain Foundations (HMP-AA-000DC6810060)

b. Double-click on the icon to open the Adfotain Foundations configuration page in your browser.

5. If you do not have the optional Windows XP with UPnP browsing enabled, then
   a. Note the device IP that is shown on the device's screen during power up; if necessary, you may power-cycle the device to see the IP address again;
   b. Open your browser on the PC and view the URL http://nnn.nnn.nnn.nnn where nnn.nnn.nnn.nnn is the IP displayed by the device at power-up; this opens up the Adfotain Foundations configuration page.

Logging In

When you first connect to Adfotain Foundations, you see the following log-in page:

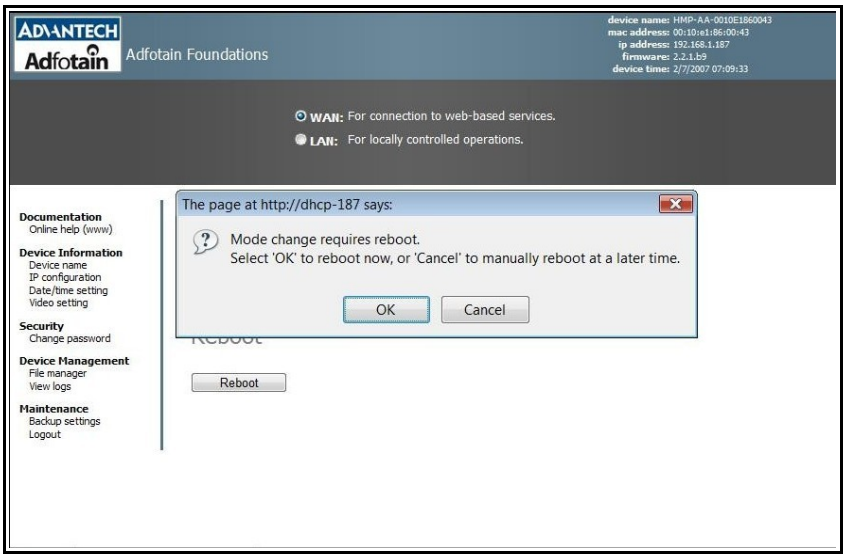


Use the default account "admin" and password "digiSignage" (case sensitive) to log in. Password can be changed later.

After you have successfully logged, you may carry out the following device actions.

Selecting A Mode

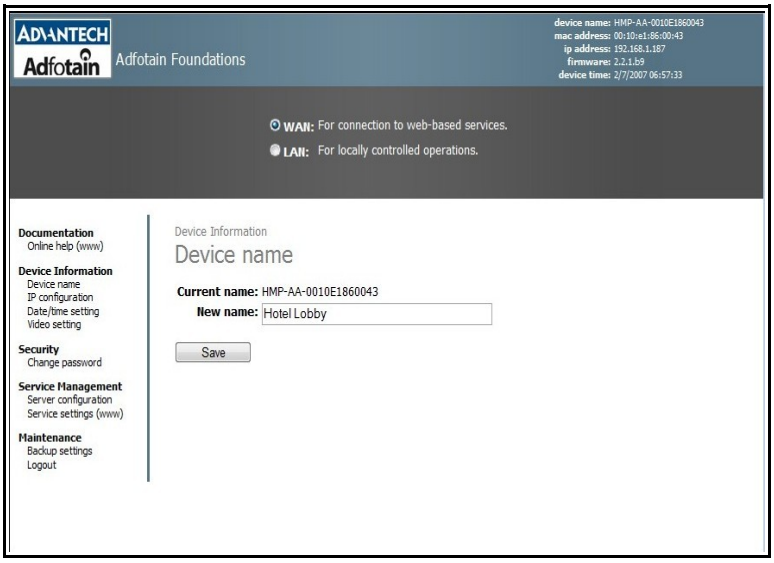
Each page of Adfotain Foundations configurations has a mode selection control displayed:



The currently selected mode is shown with a radio button in the dark strip region on the page. You can change the mode by clicking on the radio button. When there is a mode change, you are prompted to reboot to activate the new setting.

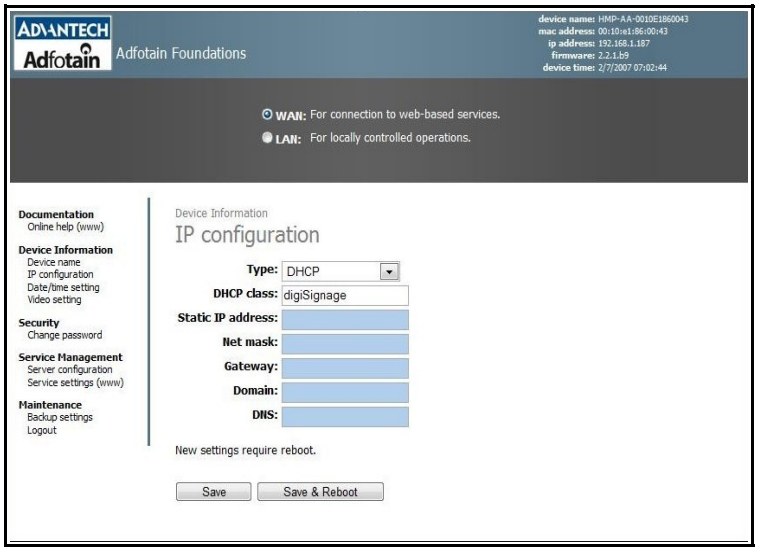
Changing Device Name

Each device carries a human-readable name to help identify the device. The name is shown when browsing in UPnP. The name can be changed in any one of the three modes by clicking on the "Device name" menu item on the left-hand side.

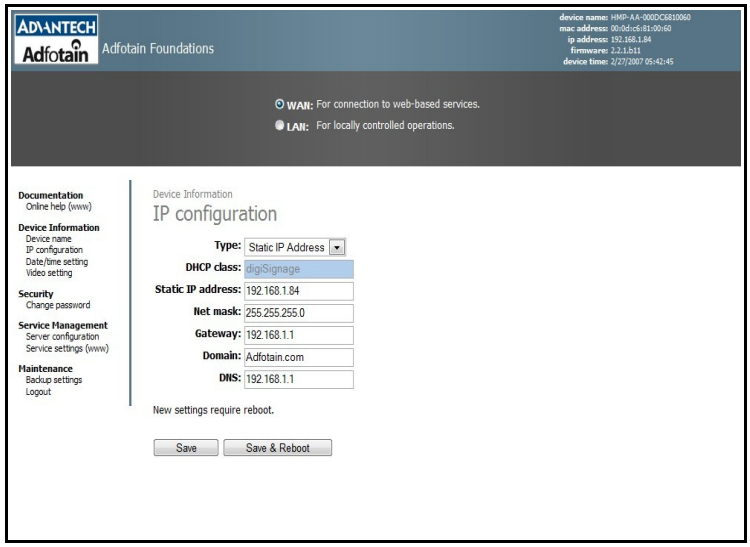


IP Configuration

Each device can be configured an IP. Adfotain Foundations supports dynamic IP assignment with DHCP and static IP assignment.



You may specify a "DHCP class" if your DHCP server supports it.

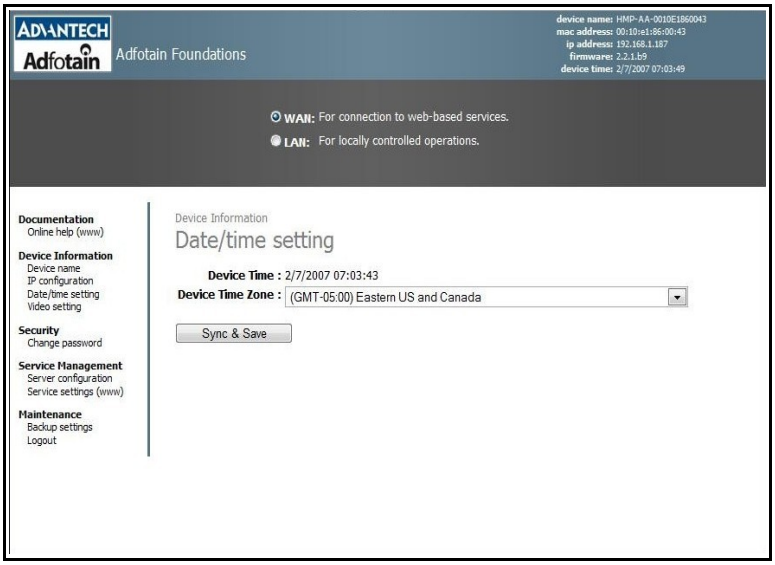


A configuration with static IP is shown in the figure above.

Note that any changes in this page requires rebooting the device. Whenever rebooting is required, you will be given two buttons: click "Save" if you want to make more changes and reboot later, or "Save & Reboot" if you want to save settings and reboot immediately to make the new settings effective.

Date/Time Setting

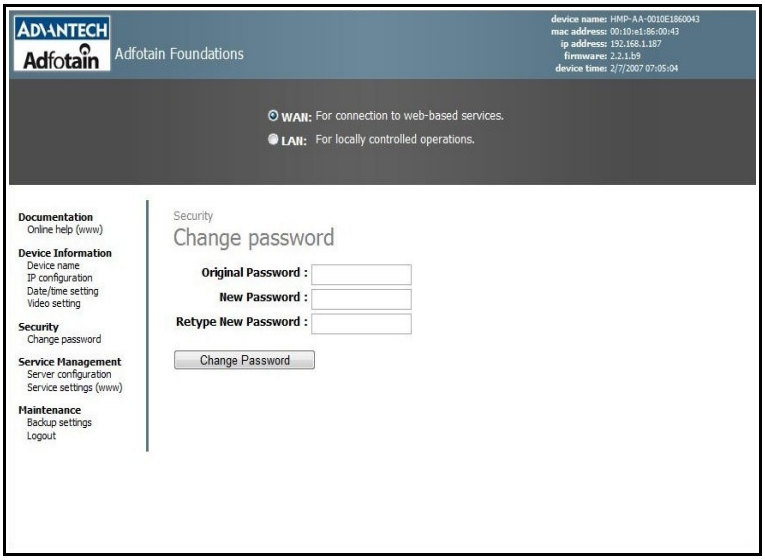
The scheduling features of Adfotain Foundations require the device's clock to be set correctly. On the date/time setting page, your media processor is automatically synchronized with the PC's clock.



To synchronize device's clock with your PC's, first select the correct time zone for your device's installed region. Then click the "Sync & Save" button to synchronize the clocks and save the time setting.

Changing Password

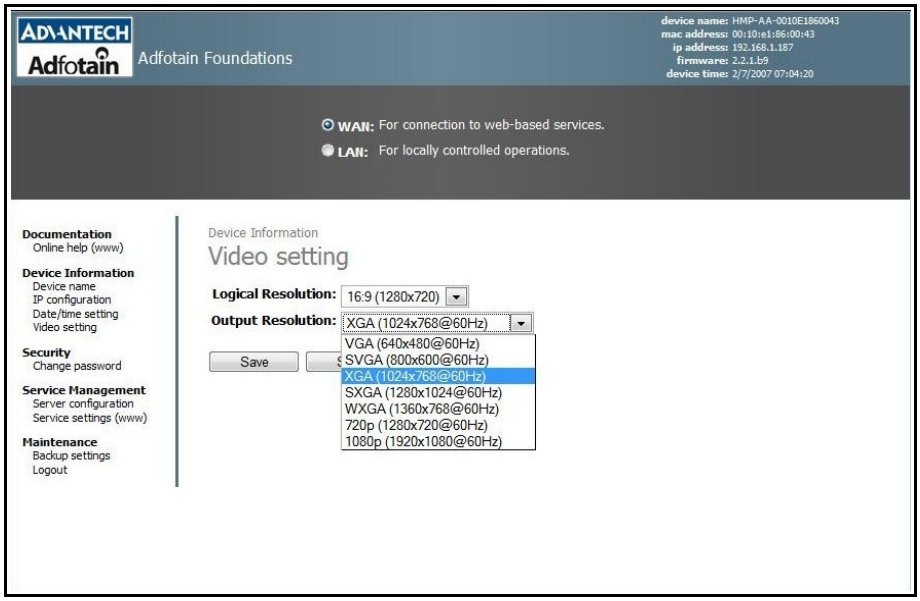
A single password allows you to access the Adfotain Foundations.



To change the device's password, enter the current password in the "Original Password" field, followed by the new password in each of the "New Password" and "Retype New Password" fields. When this is done, click the "Change Password" button to save the new password.

Video Setting

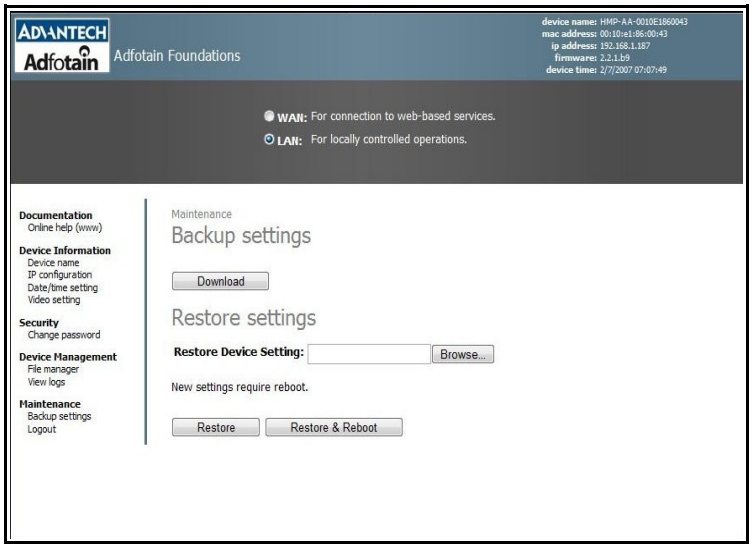
Adfotain Foundations supports various media and display resolutions to best fit your need. Select the proper resolution settings to best present your media.



In the "Logical Resolution" drop down list, select the resolution for your media files in pixels. In the "Output Resolution" drop down list, select the proper display resolution.

Backing Up Configuration Settings

There may be occasions you would want to back up all Adfotain Foundations configuration options. This way in case you need to restore device to a previous configuration, you can reload the configuration file instead of manually setting all options.

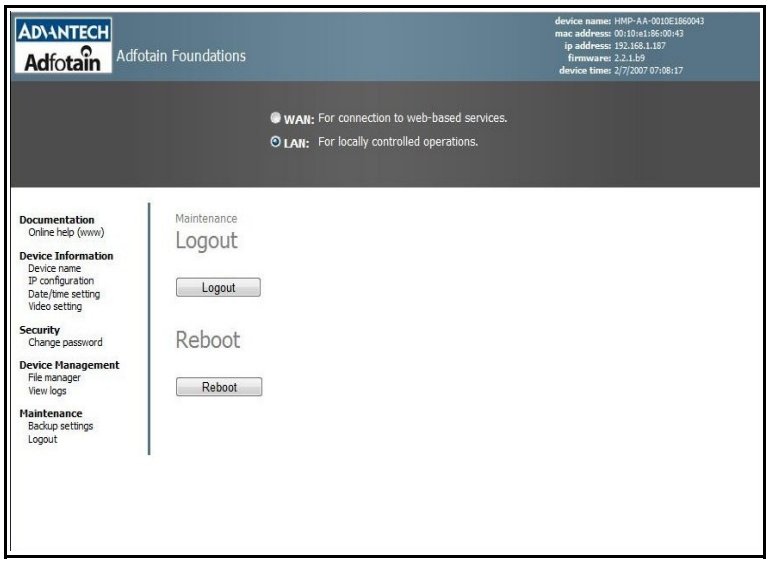


You may click on "Download" to download the current configuration file. Save it to your PC in case you need to restore it later.

To restore a previous configuration, click the "Browse" button to select a previously saved configuration file and click "Restore & Reboot" to restore it.

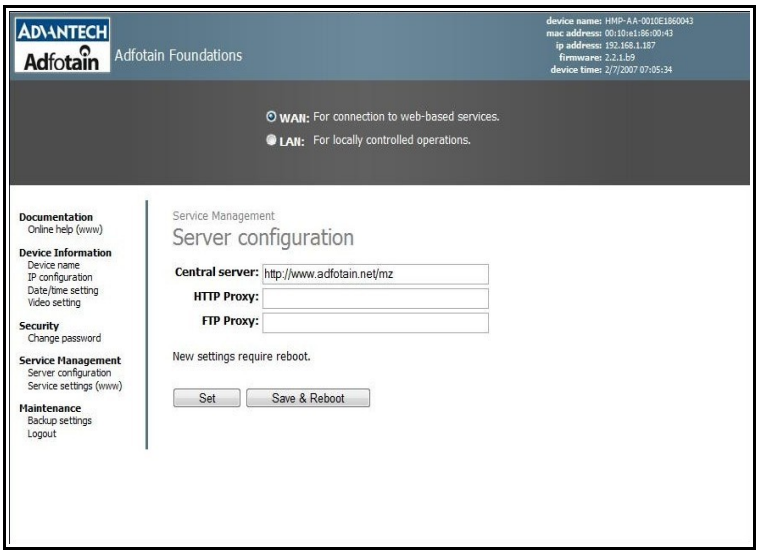
Logging Out

After configuration is complete, you should log out of Adfotain Foundations, optionally reboot if any of your latest changes require reboot to activate.



WAN Mode Specific: Server Configuration

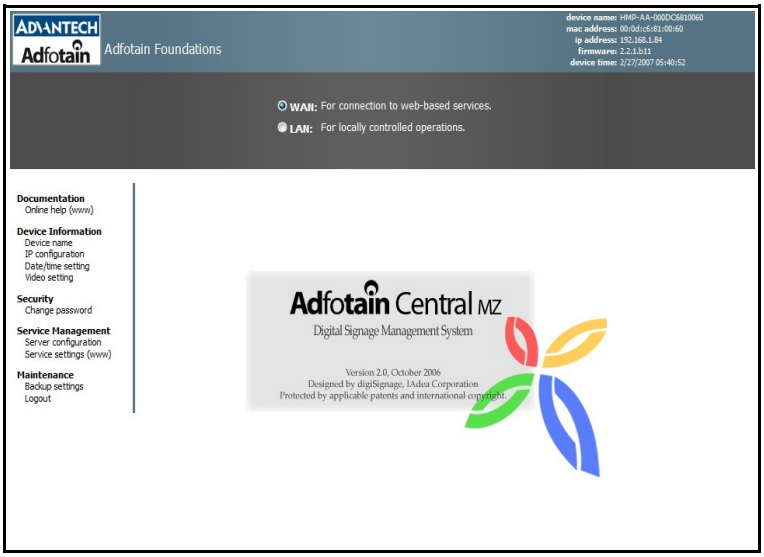
WAN mode operates by listening to controls issued by a centralized server. This can be configured in the "Server Configuration" page.



You can also configure your HTTP Proxy and FTP Proxy if your network requires these settings to get pass firewalls.

WAN Mode Specific: Service Settings

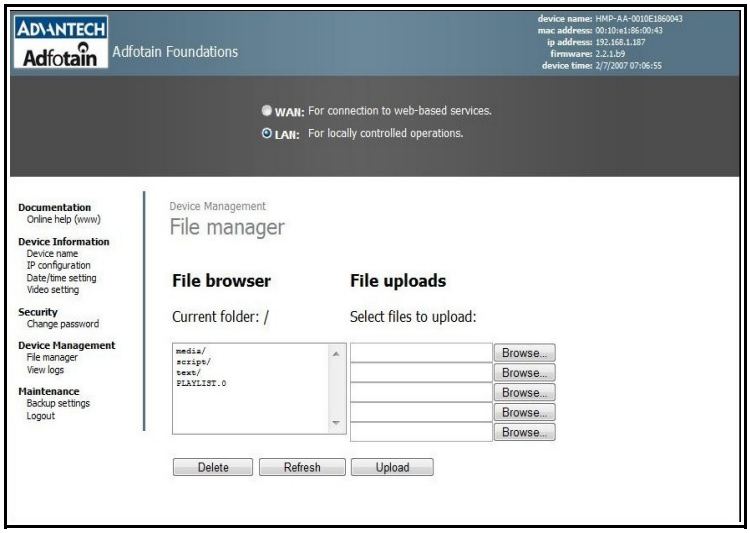
You may access your management server services from the "Service Settings" page.



The "Service Settings" page requires a connection from your PC to the World Wide Web.

LAN Mode Specific: File Manager

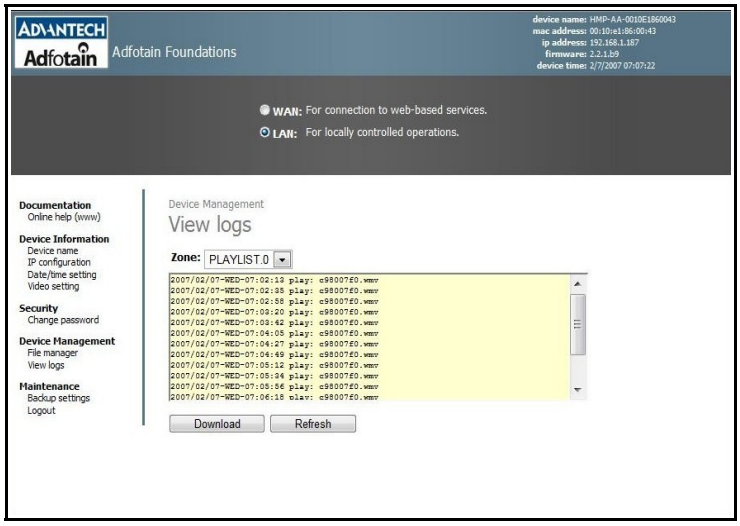
LAN mode allows you to modify the contents of the on-board storage.



When you enter the File Manager page, the device will enter the UPDATE mode so you can modify the contents of the on-board storage. When you switch out of the File Manager, playback of the new content resumes. You may upload media files as well as playlists. Please see Appendix B for instruction on how to create a playlist.

LAN Mode Specific: View Logs

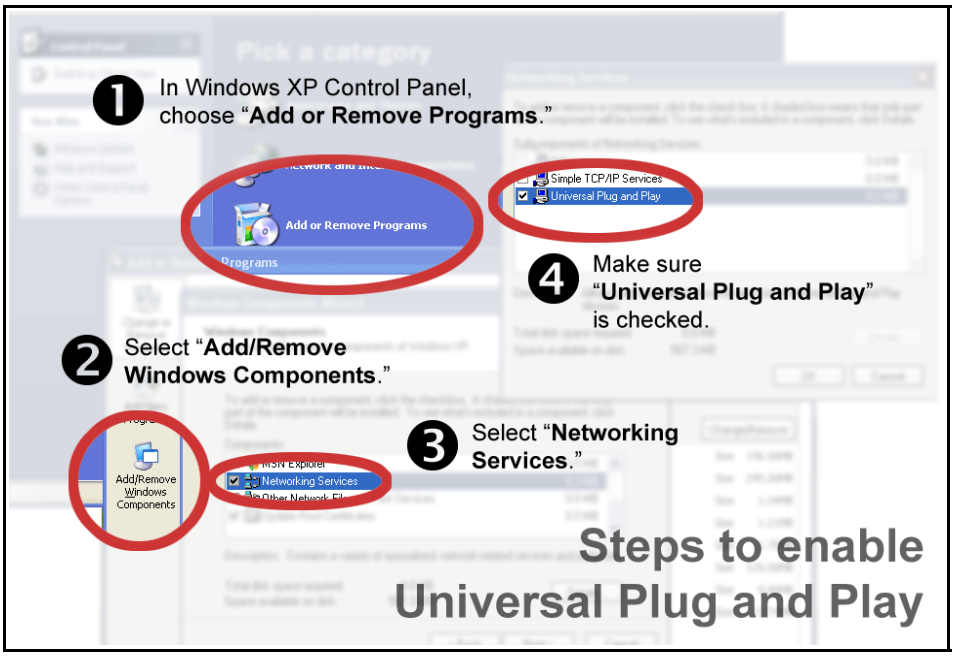
LAN mode also allows you to view device logs, including the exact time each file is played, as well as diagnostic information.



You can click "Download" to obtain the logs as an .CSV spreadsheet that is compatible with Microsoft Excel and OpenOffice Calc. Remember to "save" the file instead of "open" to ensure log file is downloaded completely before opened.

Appendix A: Enabling UPnP in Windows XP

If you are using UPnP (Universal Plug and Play) on your Microsoft Windows XP (SP2) for the first time, you need to configure it following the steps below:


1 In Windows XP Control Panel, choose "Add or Remove Programs."
Add or Remove Programs
Simple TCP/IP Services
Universal Plug and Play
4 Make sure "Universal Plug and Play" is checked.
2 Select "Add/Remove Windows Components."
Add/Remove Windows Components
Networking Services
3 Select "Networking Services."
Steps to enable Universal Plug and Play

1. Go to your Windows Control Panel, select "Add or Remove Program";
2. On the left-hand-side of the opened window, select "Add/Remove Windows Components";
3. A dialog box pops up listing Windows components for installation. Scroll down to select "Network Services" and click the "Details" button;
4. You should see another dialog box listing network options. Make sure there is a check mark before the item "Universal Plug and Play." If not, click it to check. Click "OK" to confirm the addition.

From now on, you can find UPnP devices listed in your Windows Explorer listed under "My Network Places" node.

Appendix B: Playlist File Format

Each media player can play according to a complex schedule defined as a "playlist" file located on the on-board storage. A playlist file is an ASCII text file. A simple playlist looks like

Example 1: simple playlist

```
[PL1:start]
<VID1.MPG>
<VID2.AVI>
^[PL1]
```

Example 1 shows a simple playlist file defining one playlist named PL1 with two items: files VID1.MPG and VID2.AVI. At the end of the playlist a jump instruction ^[PL1] indicates that the flow logic goes back to the start of PL1.

Example 2: play-once playlist

```
[PL1:start]
<VID1.MPG>
<VID2.AVI>
^[PL2]

[PL2]
<VID3.MPG>
<VID4.MPG>
^[PL2]
```

Example 2 shows a playlist file containing two playlists: PL1 and PL2. PL1 defines the playback of VID1.MPG and VID2.AVI. Note that at the end of PL1, flow logic goes to play PL2, which loop plays VID3.MPG and VID4.MPG files. So in this example, VID1.MPG and VID2.AVI is played once, followed by continuous play back of VID3.MPG and VID4.MPG in a loop.

Example 3: timed playlist

```
[PL1:*/*/*-MON-08:00:00]
<<VIDEO:ON>>
<VID1.MPG>
<VID2.AVI>
```

```
^[PL1]

[PL2:*/*/*-MON-17:00:00]
<<VIDEO:OFF>>
^[PL2]
```

Example 3 shows a playlist that turns on the screen every Monday morning from 8 AM and plays VID1.MPG and VID2.AVI, and turns off the screen every Monday at 5 PM.

For those interested in the technical syntax of the playlist file, please see the following section.

Technical Syntax

- *File* = *Sections*
- *Sections* = **empty** | *Sections Section*
- *Section* = *PlayList*
- *PlayList* = *PLHeaders PlayItems*
- *PlayItems* = **empty** | *PlayItems PlayItem*
- *PlayItem* = *EventDecl* | *Action*
- *Action* = *ActionCommand* | *ActionFile* | *ActionJump*

- *PLHeaders* = *PLHeader* | *PLHeaders PLHeader*
- *PLHeader* = *PLDecl* | *PLSchedule* | *PLStart*
- *PLDecl* = **[PL** *PLId* **]**
- *PLSchedule* = **[PL** *PLId* **:** *TimeSpec PLScheduleFlags* **]**
- *PLStart* = **[PL** *PLId* **:start]**
- *PLId* = **0..*MAX_PLId***
- *TimeSpec* = *Year* **/** Month **/** *MonthDay* **-** *WeekDay* **-** *Hour* **:** *Minute* **:** *Second*
- *PLScheduleFlags* = **empty** | **:** *PLFlags* | **:+**
- *PLFlags* = *PLFlag* | *PLFlags* **,** *PLFlag*
- *Year* = *Wildcard* | **2000-2050**
- *Month* = *Wildcard* | **1-12**
- *MonthDay* = *Wildcard* | **1-31**
- *WeekDay* = *Wildcard* | **SUN** | **MON** | **TUE** | **WED** | **THU** | **FRI** | **SAT** | **0-7**
- *Hour* = *Wildcard* | **0-23**
- *Minute* = *Wildcard* | **0-59**
- *Second* = *Wildcard* | **0-59**
- *Wildcard* = *****
- *PLFlag* = **string**

- *EventDecl* = **@(** *EventType* **:** *EventParams* **)** *ActionJump*
- *EventType* = **string**
- *EventParams* = *EventParam* | *EventParams* **,** *EventParam*
- *EventParam* = **integer**

- *ActionCommand* = *ActionInternalCommand* | *ActionExternalCommand*
- *ActionInternalCommand* = **«** *Command* **»** *ActionSpecs* **newline**

- *ActionExternalCommand* = **«:** *Command* **»** *ActionSpecs* **newline**
- *Command* = *CommandType CommandParams*
- *CommandType* = **string**
- *CommandParams* = **empty** | *CommandParams* **:** *CommandParam*
- *CommandParam* = **empty** | **string**

- *ActionFile* = **<** *MediaFileName* **>** *ActionSpecs* **newline**
- *MediaFileName* = **string**

- *ActionJump* = **^[PL** *PLId* **] newline**

- *ActionSpecs* = **empty** | *ActionSpecs* **,** *ActionSpec*
- *ActionSpec* = *ActionSpecType* **(** *ActionSpecValues* **)**
- *ActionSpecType* = **A-Z**
- *ActionSpecValues* = *ActionSpecValues_1* | *ActionSpecValues_2*
- *ActionSpecValues_1* = *ActionSpecValue* | *ActionSpecValues_1* **:** *ActionSpecValue*
- *ActionSpecValues_2* = *ActionSpecValue* | *ActionSpecValues_2* **,** *ActionSpecValue*
- *ActionSpecValue* = **integer** | **string**

Sections

- PLAYLIST file consists of sections.
- There is only one type of section, *PlayList*.

PlayList

- *PlayList* is a sequence of *PlayItems*.
- *PLHeader* defines when and how a *PlayList* to be loaded.
- A *PlayList* may start with multiple *PLHeaders* with the same *PLId*.
- Each *PlayList* must have its own unique *PLId*.
- *PlayList* of a *PLId* should not have multiple definitions in a PLAYLIST file.
- *PLDecl* simply begins a new *PlayList*.
- *PLStart* defines a default *PlayList* that should be executed once the PLAYLIST file is loaded successfully.
- Only one *PLStart* can be used in a PLAYLIST file.
- *PLSchedule* defines the *Playlist* should be executed automatically when the *TimeSpec* is reached.
- *WildCard* in *TimeSpec* means any value can be in that field.
- If *MonthDay* is not *WildCard*, the *WeekDay* field will be ignored.
- *WeekDay* of integer **0** or **7** is Sunday.
- If multiple *PlayLists* are scheduled at the same time, the one of the largest *PLId* will be executed.

PLFlag

- Supported *PLFlags* are **SMOOTH** and **SYNC**.
- Setting *PLScheduleFlags* as **:+** is equivalent to **:SMOOTH**.
- If **:+** or **SMOOTH** is set as *PLFlag*, the *PlayList* will delay its execution until an action is completed.
- TODO: explain **SYNC**

PlayItems

- *PlayItems* in a *PlayList* are exectued sequentially until there is a *ActionJump* or branch *ActionCommand* executed.
- *PlayList* is optionally ended with a *ActionJump*.
- *ActionFile* is to play the file specified by *MediaFileName*.
- *ActionInternalCommand* and *ActionExternalCommand* are the same on HMP devices.
- *ActionJump* is to jump to the first *PlayItem* of the specified *PlayList*.

ActoinSpec

- Setting time length of the *Action*
    - Syntax: **L(***hour*:*miniute*:*second***)** | **L(***miniute*:*second***)** | **L(***second***)**
- Values of *second* and *minute* can exceed **60**.
- If time length is specified, it takes that length of time to execute the *Action*.
- The default time length of *ActionCommand* and *ActionJump* is zero.
- The default time length of *ActionFile* is the duration of the playback.
- If the specified time length for a *ActionFile* is shorter than the duration of the placyback, playback will not stop when the *Actoin* completes. However, executing subsequent *ActionFile* will stop the playback immediately.
- This *ActionSpec* is useful to control the duration of displaying still pictures.
- Setting the region of the *ActionFile*
    - Syntax: **R(***RegionId***)**
- This *ActionSpec* is used for multi-zone application.
- Refer to *ActionInternalCommad* for how to define the coordinates of a region.
- The default region of *ActionFile* is full-screen.
- The display of *ActionFile* will be scaled to fit in the specified region.
- Setting the effects of the *ActionFile*
    - Syntax: **E(***Effect***)** | **E((***Effect***,***Param***)**
- Default *Effect* = **Appear**
        - When playing video, **Appear** has the same effect as **LetterBox**
- When playing picture, **Appear** has the same effect as **Stretch**
    - Crawling picture effect
        - *Effect* = **CrawlLeft** | **CrawlRight** | **CrawlUp** | **CrawlDown**
- *Param* = number of pixels per second (in logical resolution unit)
            - Default *Param* = crawling length / 20
- Range of *Param* = crawling length / 60 to crawling length * 3
    - Display mode
        - *Effect* = **LetterBox** | **PanScan** | **Stretch**
- *Param* = not used
    - Transparent display mode
        - *Effect* = **Transparent** | **TransparentLetterBox** | **TransparentPanScan** | **TransparentStretch**
- *Param* = alpha value (applicable to pictures without alpha layer)
            - Default *Param* = 0
        - When playing video, **Transparent** hass the same effect as **TransparentLetterBox**
- When playing picture, **Transparent** has the same effect as **TransparentStretch**

ActionInternalCommand

- **«REGION:***RegionId*:*x*,*y*,*width*,*height***»**
    - *RegionId* = **0..MAX_REGION_ID**
- *x* = **integer**
- *y* = **integer**
- *width* = **integer**

- *height* = **integer**
- Due to the design of ESS chip, *width* must be multiples of 16.
- Set *x*, *y*, *width*, and *height* to zeros to specify a full-screen region.
- **«VIDEO:***OnOff***»**
    - *OnOff* = **ON** | **OFF**
- Turn on or off the video output.
- For backward compatible, *ActionFile* **<VGA.ON>** is equivalent to *ActionCommand* **«VIDEO:ON»**.
- For backward compatible, *ActionFile* **<VGA.OFF>** is equivalent to *ActionCommand* **«VIDEO:OFF»**.
- **«WAIT»**
    - This *Command* waits until an *Event* or *TimeSpec* is triggered.
- The time length *ActionSpec* is not applicable to this *Command*.
- **«LOAD:***FileName*[**:FORCE**][**:SMOOTH**]**»**
    - This *Command* is used to load file *FileName* to replace the current *PLAYLIST* file.
- If *FileName* is the current *PLAYLIST* file and not modified, this command does nothing unless **FORCE** is set.
- Set **SMOOTH** to avoid stopping current playback.
- **«DRAW:FillRect:***x***,***y***,***width***,***height***:***color***»**
    - This *Command* draws a rectangle on (*x*,*y*,*width*,*height*) of the screen and fill it with *color*.
- If (*x*,*y*,*width*,*height*) is omitted, the coordinate of the rectangle will be set as fullscreen.
- If *color* is omitted, the value will be set to zero.
- Value of *color* can be written in hex by starting with "**0x**".
- The value of *color* consists of *alpha* [31..24], *red* [23..16], *green* [15..8], and *blue* [7..0].
- Due to the hardware, setting *alpha* to zero will cause the rectangle to be filled with black pixels.

Events

- Each *PlayList* has its own *Event* rules.
- An *Event* rule can be declared any where in a *PlayList*.
- Only the first matched *Event* rule will be handled.
- Currently there are no available *EventTypes*.